

Connecting via Winsock to STN

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LOGINID: ssspta1604dxj

PASSWORD :

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* * * * * * * * * * * * * Welcome to STN International * * * * * * * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 Apr 08 "Ask CAS" for self-help around the clock
NEWS 3 Apr 09 BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 4 Apr '09 ZDB will be removed from STN
NEWS 5 Apr 19 US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 6 Apr 22 Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 7 Apr 22 BIOSIS Gene Names now available in TOXCENTER
NEWS 8 Apr 22 Federal Research in Progress (FEDRIP) now available
NEWS 9 Jun 03 New e-mail delivery for search results now available
NEWS 10 Jun 10 MEDLINE Reload
NEWS 11 Jun 10 PCTFULL has been reloaded
NEWS 12 Jul 02 FOREGE no longer contains STANDARDS file segment
NEWS 13 Jul 22 USAN to be reloaded July 28, 2002;
saved answer sets no longer valid
NEWS 14 Jul 29 Enhanced polymer searching in REGISTRY
NEWS 15 Jul 30 NETFIRST to be removed from STN
NEWS 16 Aug 08 CANCERLIT reload
NEWS 17 Aug 08 PHARMAMarketLetter (PHARMAML) - new on STN
NEWS 18 Aug 08 NTIS has been reloaded and enhanced
NEWS 19 Aug 19 Aquatic Toxicity Information Retrieval (AQUIRE)
now available on STN
NEWS 20 Aug 19 IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21 Aug 19 The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22 Aug 26 Sequence searching in REGISTRY enhanced
NEWS 23 Sep 03 JAPIO has been reloaded and enhanced
NEWS 24 Sep 16 Experimental properties added to the REGISTRY file
NEWS 25 Sep 16 Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 26 Sep 16 CA Section Thesaurus available in CAPLUS and CA
NEWS 27 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985
NEWS 28 Oct 21 EVENTLINE has been reloaded
NEWS 29 Oct 24 BEILSTEIN adds new search fields
NEWS 30 Oct 24 Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 31 Oct 25 MEDLINE SDI run of October 8, 2002 .
NEWS 32 Nov 18 DKILIT has been renamed APOLLIT
NEWS 33 Nov 25 More calculated properties added to REGISTRY
NEWS 34 Dec 02 TIBKAT will be removed from STN
NEWS 35 Dec 04 CSA files on STN

NEWS EXPRESS October 14 CURRENT WINDOWS VERSION IS V6.01,
CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that

specific topic.

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* *

FILE 'HOME' ENTERED AT 23:11:15 ON 15 DEC 2002

```
=> file reg
COST IN U.S. DOLLARS          SINCE FILE      TOTAL
                                ENTRY           SESSION
FULL ESTIMATED COST          0.21           0.21
```

FILE 'REGISTRY' ENTERED AT 23:11:46 ON 15 DEC 2002
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES: 13 DEC 2002 HIGHEST RN 476274-11-0
DICTIONARY FILE UPDATES: 13 DEC 2002 HIGHEST RN 476274-11-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

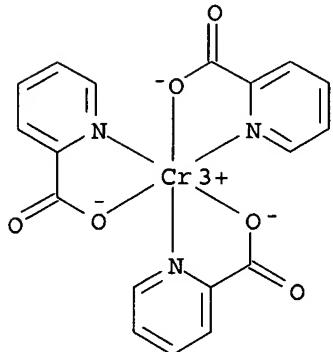
Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

```
=> s chromium picolinate
    172271 CHROMIUM
    602 PICOLINATE
L1      1 CHROMIUM PICOLINATE
        (CHROMIUM(W) PICOLINATE)
```

=> d 11

```
L1  ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN  27882-76-4  REGISTRY
CN  Chromium, tris(2-pyridinecarboxylato-.kappa.N1,.kappa.O2)-, monohydrate
    (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN  2-Pyridinecarboxylic acid, chromium complex
CN  Chromium, tris(2-pyridinecarboxylato-N1,O2)-, monohydrate
CN  Chromium, tris(picolinato)-, monohydrate (8CI)
OTHER NAMES:
CN  Chromium picolinate monohydrate
MF  C18 H12 Cr N3 O6 . H2 O
CI  CCS
LC  STN Files: CA, CAPLUS, GMELIN*, TOXCENTER, USPATFULL
```

(*File contains numerically searchable property data)
CRN (14639-25-9)



● H₂O

141 REFERENCES IN FILE CA (1962 TO DATE)
141 REFERENCES IN FILE CAPLUS (1962 TO DATE)

=> s choline

L2 3992 CHOLINE

=> s chromium nicotinate

172271 CHROMIUM

1572 NICOTINATE

L3 1 CHROMIUM NICOTINATE
(CHROMIUM(W)NICOTINATE)

=> d 13

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS

RN 64452-96-6 REGISTRY

CN 3-Pyridinecarboxylic acid, chromium(3+) salt (9CI) (CA INDEX NAME)

OTHER NAMES:

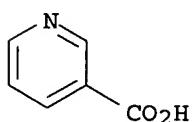
CN Chromium nicotinate

CN Chromium(3+) 3-pyridinecarboxylate

MF C6 H5 N O2 . 1/3 Cr

LC STN Files: CA, CAPLUS, CHEMCATS, CSCHEM, TOXCENTER, USPATFULL

CRN (59-67-6)



1/3 Cr(III)

10 REFERENCES IN FILE CA (1962 TO DATE)

10 REFERENCES IN FILE CAPLUS (1962 TO DATE)

| | | |
|---|---------------------|------------------|
| => FIL MEDLINE, BIOSIS, EMBASE, EMBAL, CA, CAPLUS, USPATFUL
COST IN U.S. DOLLARS | SINCE FILE
ENTRY | TOTAL
SESSION |
| FULL ESTIMATED COST | 23.92 | 24.13 |

FILE 'MEDLINE' ENTERED AT 23:13:01 ON 15 DEC 2002

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FILE 'USPATFULL' ENTERED AT 23:13:01 ON 15 DEC 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l1
L4 320 L1

=> s l3
L5 25 L3

=> s l4 or l
L6 4930891 L4 OR L

=> s l4 or l5
L7 345 L4 OR L5

=> d his

(FILE 'HOME' ENTERED AT 23:11:15 ON 15 DEC 2002)

FILE 'REGISTRY' ENTERED AT 23:11:46 ON 15 DEC 2002
L1 1 S CHROMIUM PICOLINATE
L2 3992 S CHOLINE
L3 1 S CHROMIUM NICOTINATE

FILE 'MEDLINE, BIOSIS, EMBASE, EMBAL, CA, CAPLUS, USPATFULL' ENTERED AT
23:13:01 ON 15 DEC 2002
L4 320 S L1
L5 25 S L3
L6 4930891 S L4 OR L
L7 345 S L4 OR L5

| | | |
|-------------------------------------|---------------------|------------------|
| => file reg
COST IN U.S. DOLLARS | SINCE FILE
ENTRY | TOTAL
SESSION |
| FULL ESTIMATED COST | 8.75 | 32.88 |

FILE 'REGISTRY' ENTERED AT 23:14:13 ON 15 DEC 2002
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DICTIONARY FILE UPDATES: 13 DEC 2002 HIGHEST RN 476274-11-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

```
=> s l carnitine
      1238137 L
      406 CARNITINE
L8      81 L CARNITINE
          (L(W)CARNITINE)

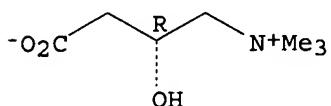
=> s l-carnitine/cn
L9      1 L-CARNITINE/CN

=> d 19

L9      ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN      541-15-1  REGISTRY
CN      1-Propanaminium, 3-carboxy-2-hydroxy-N,N,N-trimethyl-, inner salt, (2R)-
          (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN      1-Propanaminium, 3-carboxy-2-hydroxy-N,N,N-trimethyl-, hydroxide, inner
          salt, (R)-
CN      Ammonium, (3-carboxy-2-hydroxypropyl)trimethyl-, hydroxide, inner salt, L-
          (8CI)
OTHER NAMES:
CN      (-)-Carnitine
CN      (-)-L-Carnitine
CN      (R)-Carnitine
CN      1-Propanaminium, 3-carboxy-2-hydroxy-N,N,N-trimethyl-, inner salt, (R)-
CN      Carniking
CN      Carniking 50
CN      Carnitene
CN      Carnitine
CN      Carnitine, (-)-
CN      L-(-)-Carnitine
CN      1-Carnitine
CN      L-Carnitine
CN      Levocarnitine
CN      ST 198
CN      Vitamin BT
FS      STEREOSEARCH
DR      7634-98-2, 101512-81-6, 4209-27-2
MF      C7 H15 N O3
CI      COM
```

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGNL, DRUGU, DRUGUPDATES, EMBASE, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, PHAR, PHARMASEARCH, PROMT, RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: EINECS**, WHO
 (**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry. Rotation (-).



3917 REFERENCES IN FILE CA (1962 TO DATE)
 788 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 3927 REFERENCES IN FILE CAPLUS (1962 TO DATE)
 11 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

| | | |
|---|------------|---------|
| => FIL MEDLINE, BIOSIS, EMBASE, EMBAL, CA, CAPLUS, USPATFUL | SINCE FILE | TOTAL |
| COST IN U.S. DOLLARS | ENTRY | SESSION |
| FULL ESTIMATED COST | 13.96 | 46.84 |

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FILE 'USPATFULL' ENTERED AT 23:14:59 ON 15 DEC 2002
 CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

=> d his

(FILE 'HOME' ENTERED AT 23:11:15 ON 15 DEC 2002)

FILE 'REGISTRY' ENTERED AT 23:11:46 ON 15 DEC 2002
 L1 1 S CHROMIUM PICOLINATE
 L2 3992 S CHOLINE
 L3 1 S CHROMIUM NICOTINATE

FILE 'MEDLINE, BIOSIS, EMBASE, EMBAL, CA, CAPLUS, USPATFULL' ENTERED AT
 23:13:01 ON 15 DEC 2002

| | | | |
|----|---------|---|----------|
| L4 | 320 | S | L1 |
| L5 | 25 | S | L3 |
| L6 | 4930891 | S | L4 OR L |
| L7 | 345 | S | L4 OR L5 |

FILE 'REGISTRY' ENTERED AT 23:14:13 ON 15 DEC 2002
L8 81 S L CARNITINE
L9 1 S L-CARNITINE/CN

FILE 'MEDLINE, BIOSIS, EMBASE, EMBAL, CA, CAPLUS, USPATFULL' ENTERED AT
23:14:59 ON 15 DEC 2002

=> S 18 OR 19
'CN' IS NOT A VALID FIELD CODE
L10 30949 L8 OR L9

=> s l10 and l7
L11 31 L10 AND L7

=> s animal feed
L12 46002 ANIMAL FEED

=> s l1 and l12
L13 0 L1 AND L12

=> s feed
L14 894035 FEED

=> s l14 and l11
L15 6 L14 AND L11

```
=> dup rem
ENTER L# LIST OR (END):l15
PROCESSING COMPLETED FOR L15
L16          4 DUP REM L15 (2 DUPLICATES REMOVED)
```

=> d 116 1-4 ibib, kwic

L16 ANSWER 1 OF 4 CA COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 137:310100 CA
TITLE: Carnitine and chromium feed additives for enhancing reproductive performance in sows
INVENTOR(S): Real, Daryl; Tokach, Michael D.; Dritz, Steve S.; Nelssen, Jim L.; Goodband, Robert D.; Woodworth, Jason; Owen, Kevin Q.
PATENT ASSIGNEE(S): Lonza Ltd., Switz.; Kansas State University Research Foundation
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|---|----------|-----------------|----------|
| WO 2002085134 | A1 | 20021031 | WO 2002-US12921 | 20020423 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, HR, HU,
ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO,
RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, | | | |

CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: EP 2001-109978 A 20010424
US 2001-291920P P 20010517
US 2002-87198 A1 20020301

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Carnitine and chromium **feed** additives for enhancing reproductive performance in sows

AB The present invention relates to supplementing the diets to sows during the periods of gestation, lactation, and breeding by feeding L-carnitine and chromium. The supplementation enhances pork productivity by increasing the no. of pigs born alive in the subsequent reproductive cycle. Sow diets of this invention include L-carnitine and L-carnitine salts and trivalent chromium salts, such as chromium picolinate and chromium nicotinate. L-carnitine is generally added to the swine **feed** formulation in the amt. of from about 20 to about 1500 ppm, and the trivalent chromium salt is generally added to the swine **feed** formulation in the amt. of from about 20 ppb to about 1000 ppb. The invention also relates to supplemented sow diets and **feed** supplement formulation.

ST sow reprodn **feed** carnitine chromium

IT Carriers

Feed additives

 Feeding experiment

 Lactation

 Longevity

 Pregnancy

 Reproduction, animal

 Swine

 (carnitine and chromium **feed** additives for enhancing reproductive performance in sows)

IT Meat

 (pork; carnitine and chromium **feed** additives for enhancing reproductive performance in sows)

IT 98-98-6D, Picolinic acid, chromium complexes 541-15-1, L-Carnitine 541-15-1D, L-Carnitine, salts 7440-47-3D, Chromium, salts 64452-96-6, Chromium nicotinate

RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
 (carnitine and chromium **feed** additives for enhancing reproductive performance in sows)

IT 7631-86-9, Silica, biological studies

RL: FFD (Food or feed use); PEP (Physical, engineering or chemical process); PYP (Physical process); BIOL (Biological study); PROC (Process); USES (Uses)

 (carrier; carnitine and chromium **feed** additives for enhancing reproductive performance in sows)

L16 ANSWER 2 OF 4 USPATFULL

ACCESSION NUMBER: 2002:160382 USPATFULL

TITLE: Diet composition and method of weight management

INVENTOR(S): Alviar, Barbara, Rockford, MI, United States

Connor, Lynne Marie, Rockford, MI, United States

Dixon, Albert Augustus, Tustin, CA, United States

Magee, Molly Marie, Aliso Viejo, CA, United States

Maly, Eugene Robert, Kentwood, MI, United States

McLauchlan, Suzanne M., Ada, MI, United States

PATENT ASSIGNEE(S): Access Business Group International LLC, Ada, MI, United States (U.S. corporation)

| NUMBER | KIND | DATE |
|--------|------|------|
|--------|------|------|

PATENT INFORMATION: US 6413545 B1 20020702
 WO 2000012080 20000309

| | | |
|--------------------|-----------------|-----------------------|
| APPLICATION INFO.: | US 2001-786099 | 20010508 (9) |
| | WO 1999-US20116 | 19990901 |
| | | 20010508 PCT 371 date |

| NUMBER | DATE |
|--------|------|
|--------|------|

| | | |
|-----------------------|--|---------------|
| PRIORITY INFORMATION: | US 1998-98715P | 19980901 (60) |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | GRANTED | |
| PRIMARY EXAMINER: | Page, Thurman K. | |
| ASSISTANT EXAMINER: | Evans, Chareese | |
| LEGAL REPRESENTATIVE: | Amway Corporation | |
| NUMBER OF CLAIMS: | 16 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 0 Drawing Figure(s); 0 Drawing Page(s) | |
| LINE COUNT: | 678 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . example, U.S. Pat. Nos. 5,428,072 and 5,554,646 to Cook disclose that conjugated linoleic acid ("CLA") reduces body fat and increases "feed efficiency." U.S. Pat. No. 3,764,692 to Lowenstein discloses that Garcinia cambogia contains hydroxy citric acid, which can be used to. . .

SUMM . . . Novel Compositions Therefore" issued Dec. 3, 1991; U.S. Pat. No. 5,428,072 to Cook entitled "Method of Increasing the Efficiency of Feed Conversion in Animals" issued Jun. 27, 1995; U.S. Pat. No. 5,430,066 to Cook entitled "Methods for Preventing Weight Loss, Reduction. . .

IT 60-33-3D, Linoleic acid, conjugates 541-15-1, L-Carnitine 7440-62-2D, Vanadium, compds., biological studies 15281-55-7 27882-76-4 220349-64-4, L-Carnitine fumarate, biological studies (diet compn. and method of wt. management)

L16 ANSWER 3 OF 4 USPATFULL

| | |
|---------------------|--|
| ACCESSION NUMBER: | 1999:144704 USPATFULL |
| TITLE: | Layered heat exchangers |
| INVENTOR(S): | Nakamura, Jumpei, Oyama, Japan
Shibata, Hiroki, Oyama, Japan
Yamazaki, Keiji, Kawachi-gun, Japan
Hanafusa, Tatsuya, Oyama, Japan
Go, Nobuaki, Oyama, Japan |
| PATENT ASSIGNEE(S): | Showa Aluminum Corporation, Sakaishi, Japan (non-U.S. corporation) |

| NUMBER | KIND | DATE |
|--------|------|------|
|--------|------|------|

| | | |
|-----------------------|--|--------------|
| PATENT INFORMATION: | US 5984000 | 19991116 |
| APPLICATION INFO.: | US 1998-98715 | 19980617 (9) |
| RELATED APPLN. INFO.: | Division of Ser. No. US 1997-803264, filed on 20 Feb 1997, now patented, Pat. No. US 5810077 which is a continuation of Ser. No. US 1994-365463, filed on 28 Dec 1994, now abandoned | |

| NUMBER | DATE |
|--------|------|
|--------|------|

| | | |
|-----------------------|--|----------|
| PRIORITY INFORMATION: | JP 1993-337439 | 19931228 |
| | JP 1994-110890 | 19940525 |
| | JP 1994-193190 | 19940817 |
| | JP 1994-233248 | 19940928 |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | Granted | |
| PRIMARY EXAMINER: | Leo, Leonard | |
| LEGAL REPRESENTATIVE: | Armstrong, Westerman, Hattori, McLeland and Naughton | |
| NUMBER OF CLAIMS: | 4 | |

EXEMPLARY CLAIM:

1

NUMBER OF DRAWINGS:

32 Drawing Figure(s); 17 Drawing Page(s)

LINE COUNT:

1232

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD FIG. 29 is a cross sectional view showing a refrigerant feed pipe for use in the heat exchanger;

DRWD FIG. 30 is a schematic perspective view of a heat exchanger as a ninth embodiment of the invention, a refrigerant feed pipe and a refrigerant discharge pipe being also shown;

DETD With the evaporator 1 described above, a refrigerant introduced into the front header 7 from a refrigerant feed pipe 27 (see FIG. 1) at the right side of the evaporator flows into the flat tubes 5 from the.

DETD The refrigerant is introduced into the rear header 6 through a feed pipe 27 and the inlet pipe 30 at the left side of the evaporator 1 (see FIG. 17) by way.

DETD . . . the outlet 42. The rear header 6 has at its left end a pipe hole 44, through which a refrigerant feed pipe 27 is inserted. The feed pipe 27 comprises an inner pipe portion 27a extending rightward into the rear header 6 and an outer pipe portion.

DETD . . . length. The rear header partition 46 is formed with a socket hole 43. The inner pipe portion 27a of the feed pipe 27 is inserted into the rear header 6 with a refrigerant passing clearance left in refrigerant passing openings 8.

DETD . . . rear header compartment of the inlet passageway 40A from the forward end of inner pipe portion 27a of the refrigerant feed pipe 27. The refrigerant is turned by the right end plate 2 and flows into the corresponding 5 flat tubes.

DETD The inner pipe portion 27a of the feed pipe 27, except for its opposite ends, is internally and externally provided with parallel fins 47, 48 extending longitudinally of.

DETD The forward end of the inner pipe portion 27a of the feed pipe 27 is secured by brazing to the peripheral edge of the socket 43 of the rear header partition 46.

DETD With reference to these drawings, the illustrated layered evaporator 1 has a pipe connecting block 50 formed with a refrigerant feed bore 51 and a refrigerant discharge bore 52 in communication with a refrigerant inlet 41 and a refrigerant outlet 42, respectively; a refrigerant feed pipe 27 and refrigerant discharge pipe 28 which are connected to the inlet 41 and the outlet 42 by the.

DETD The block 50 is secured to the evaporator 1 with the downstream end of its feed bore 51 opposed to the inlet 41 and with the upstream end of the discharge bore 52 opposed to the.

DETD The feed pipe 27 and discharge pipe 28 have retaining protuberances 27A, 28A formed by beading and each positioned close to its.

DETD The mount member 60 is formed with a U-shaped cutout 61 opened downward for the feed pipe 27 to fit in, and a U-shaped cutout 62 opened rearward for the discharge pipe 28 to fit in.

DETD . . . connected pipe end is inserted in the cutout 61 (62) of the mount member 60. The connected end of the feed pipe 27 is inserted into the feed bore 51 in the connecting block 50 from the bore upstream end, and the connected end of the discharge pipe. . . of the block 50 with a screw 66. In this way, the two pipes 27, 28 are connected to the feed inlet 41 and discharge outlet 42 with their retaining protuberance 27A, 28A held between the mount member 60 and the.

DETD . . . right end plate 47, which is provided with the discharge outlet 42 communicating with a rear header 6, and the feed inlet 41 in communication with a front header 7.

DETD . . . pipe 57 is inserted in an annular stepped portion formed in the block 50 around the downstream end of the feed bore 51. These pipe ends are secured by brazing. The left ends of the front and rear headers 7, 6. . .

DETD The feed pipe 27 is fitted in the U-shaped cutout 51 of the mount member 60 from below. The discharge pipe 28. . . .
DETD . . . 57 is enlarged by flaring into a large-diameter portion 57b, while the pipe connecting block 50 is formed around the feed bore 51 with a stepped portion 67 engageable with the large-diameter portion 57b of the inner pipe 57, and a. . . .
DETD According to the ninth and tenth embodiments, the refrigerant feed pipe 27 and discharge pipe 28 are removably connected to the evaporator 1 by the pipe connecting block 50 and. . . .
DETD Although the feed pipe 27 and discharge pipe 28 are both attached by one mount member 60 according to the ninth and tenth. . . .
IT 60-33-3D, Linoleic acid, conjugates 541-15-1, L-Carnitine
7440-62-2D, Vanadium, compds. 15281-55-7 27882-76-4
220349-64-4, L-Carnitine fumarate, biological studies
(diet compn. and method of wt. management)

L16 ANSWER 4 OF 4 CA COPYRIGHT 2002 ACS DUPLICATE 2
ACCESSION NUMBER: 132:150999 CA
TITLE: Effects of L-carnitine, chromium picolinate with different fat sources on growth and nutrient digestibility in pigs weaned at 21 days of age
AUTHOR(S): Cho, W. T.; Kim, J. H.; Kang, W. B.; Han, In K.; Han, Y. K.
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AB A total of 160 weaned piglets (Landrace .times. Yorkshire .times. Duroc) that averaged 21 days of age and 5.7 kg of body wt. were weaned (22.+-1 days of age) and housed in 1.times.2 m² pens with concrete slat flooring by completely randomized block design to investigate the effects of L-carnitine, chromium picolinate with different fat sources in weaned piglets. Pigs were grouped using a 2.times.2.times.2 factorial design into a completely randomized block design with 4 replications, 5 heads per replicate. Pigs fed L-carnitine and chromium picolinate with coconut oil showed the best performance during the entire period. During 0 .apprx. 14 days, av. daily gain showed to be affected by the supplementation of carnitine as well as chromium picolinate ($p = 0.0021$ and 0.0030 , resp.). However, use of coconut oil (medium chain fatty acids source) did not affect av. daily gain of pigs during first 2 wk. Feed intake was not affected by the supplementation of chromium picolinate nor fat sources. However, carnitine improved the av. daily feed intake of piglets during first 2 wk ($p = 0.0054$). During the third week of trial, coconut oil and chromium picolinate improved the av. daily gain of piglets ($p = 0.0024$). However, L-carnitine did not improve the av. daily gain of piglets. F/G ratio also was not affected by the use of coconut oil, however chromium picolinate and carnitine improved the F/G ratio ($p = 0.0004$ and 0.0015 resp.). For overall period, use of coconut oil, chromium picolinate and L-carnitine improved the av. daily gain ($p = 0.0157$, 0.0001 and 0.0059 resp.). By the increased feed intake, no difference was found in av. daily feed intake and chromium picolinate and carnitine improved the F/G ratio of piglets. The best performance was found in pigs fed coconut oil, chromium picolinate and L-carnitine. Proximate nutrient digestibility was improved as the use of coconut oil and supplementation of chromium picolinate and L-carnitine. Pigs fed coconut oil with chromium picolinate and L-carnitine showed the best nutrient digestibility. Fatty acid source, chromium picolinate and L-carnitine affected nutrient digestibility during entire period. The

improved ADG and F/G of pigs fed coconut oil with chromium picolinate and L-carnitine for overall period could be explained by higher digestibilities of nutrients. Use of coconut oil and/or chromium picolinate did not increase the feed price, meanwhile L-carnitine was shown to increase the feed price even in feed cost for 1,000g wt. gain because of its high ingredient price and high dose as well. Thus, use of L-carnitine showed an undesirable response in feed cost analyses.

IT 541-15-1, L-Carnitine 27882-76-4

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

(L-carnitine and chromium picolinate effect on growth and nutrient digestibility in pigs)